Nez Perce National Historical Park Natural Resource Brief

National Park Service U.S. Department of the Interior



Phenology Monitoring at Spalding

Importance:

The National Phenology Network (NPN)

(http://www.usanpn.org/) is designed to monitor the influence climate change has on the phenology of plants, animals and landscapes. Phenology refers to recurring plant and animal life cycle stages such as leafing, flowering, and migration of birds. It also refers to the study of these cycles and their timing/relationship with weather and climate change. At Nez Perce National Historical Park (NEPE), the staff has adopted this national monitoring protocol. Gathering phenological data is very important because it affects almost all aspects of our environment including:

- the abundance and diversity of organisms
- species interactions
- functions in food webs
- seasonal behaviors
- global-scale cycles of water, carbon, and other chemical elements.

2012 Status

The data park staff collected on the common lilac (*Syringa vulgaris*), in conjunction with other citizen scientists' data around the U.S., helped the NPN determine that lilacs leafed out and flowered extremely early in 2012. The average date observers reported seeing 'breaking leaf buds' was March 28th, the fifth earliest date recorded for leaf onset since 1967. Furthermore, the average date reported for 'open flowers' was April 22, the third earliest onset recorded since 1957. This shows that lilacs undoubtedly responded to the early warm temperatures of spring 2012.

(http://www.usanpn.org/vignettes#lilacs)

<u>New species being observed</u>: lesser goldfinch and American kestrel.

Management Applications

- •Use phenology of invasive weeds to better understand when treatment is necessary (based on life cycle changes observed)
- Inform integrated assessments of climate change impacts on park resources
- Understand changes in the local environment

Contact Information

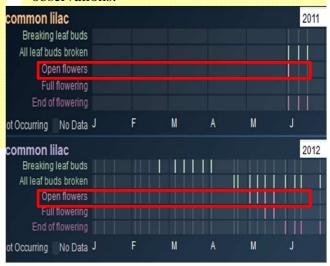
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Objectives

Determine the status and trend of black locust, common yarrow, yellow starthistle, Japanese knotweed, ponderosa pine, spotted knapweed, Woods' rose, common lilac, American robin, American goldfinch, red-winged blackbird, killdeer, great blue heron, lesser goldfinch, and American kestrels at NEPE's Spalding, Idaho site through phenological observations.



Common lilac flowers at NEPE opened in June of 2011, but opened in early May of 2012.



American kestrels (*Falco sparverius*) are experiencing long-term population declines (see American Kestrel Partnership resource brief).



